

Reply Under 37 C.F.R. § 1.116 – Expedited Procedure

Serial No.: 09/987,376

Examiner: Stephen E. Jones

In the claims:

1.-34. (Previously canceled).

35.-63. (Canceled).

64. (Currently added). A filter assembly, comprising:

a block resonator filter comprising a block of dielectric material having a conductive plating, the block resonator filter characterized by three resonant modes; and

at least one tuning element adapted for tuning one mode's resonant frequency substantially independent of the other mode's resonant frequencies; and

the at least one tuning element selectable for increasing and decreasing the one mode's resonant frequency.

65. (Currently added). The filter assembly according to Claim 64, wherein the tuning element comprises at least one void remaining when an area of the conductive plating is removed from a plane of the block resonator filter corresponding to the one mode's resonant frequency.

66. (Currently added). The filter assembly according to Claim 65, wherein the at least one void is shaped like a slot and the one mode's resonant frequency is decreased as a length of the slot is increased.

67. (Currently added). The filter assembly according to Claim 65, wherein the at least one void is circular for increasing the one mode's resonant frequency.

68. (Currently added). The filter assembly according to Claim 65, wherein the at least one void is one of rectangular shaped for decreasing the one mode's resonant frequency and circular shaped for increasing the one mode's resonant frequency.

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69. (Currently added). The filter assembly according to Claim 64, wherein the tuning element comprises at least one area of the conductive plating effected for selectably increasing or decreasing the one mode's resonant frequency.

70. (Currently added). The filter assembly according to Claim 69, wherein the at least one area of effected conducting plating is rectangular shaped for decreasing the one mode's resonant frequency or is circular shaped for increasing the one mode's resonant frequency.

71. (Currently added). The filter assembly according to Claim 69, wherein in an effected area of conductive plating is one of removing the conductive plating and indenting the conductive plating.

72. (Currently added). The filter assembly according to Claim 64, wherein the block resonator filter comprises three orthogonal planes, each associated with one of the three resonant modes.

73. (Currently added). A filter assembly, comprising
a block resonator adapted for having three resonant modes; and
a tuning element adapter for tuning each of the three resonant modes; and
the tuning element selectable for tuning each of the three resonant modes substantially independent of the other; and
the tuning element further selectable for increasing and decreasing each of the three resonant modes.

74. (Currently added). The filter assembly according to Claim 73, wherein the block resonator further comprises a block of dielectric material having a conductive plating and the tuning element comprises an effected area of the conductive plating having a determined pattern for increasing and decreasing a mode's resonant frequency.

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75. (Currently added). The filter assembly according to Claim 74, wherein the block resonator further comprises three orthogonal planes each corresponding to one of the three resonant modes and the tuning element comprises an effected area of the conductive plating associated with one of the three orthogonal planes for increasing or decreasing the resonate frequency associated therewith.

76. (Currently added). The filter assembly according to Claim 73, wherein the tuning element comprises a circular effected area of a conductive plating of the block resonator for increasing a resonate frequency and a rectangular effected area of the conductive plating for decreasing the resonate frequency.

77. (Currently added). A filter assembly, comprising:

a block resonator comprising a block of dielectric material having a conductive plating;

and

a means for tuning at least one of three resonate frequencies associated with the block resonator; and

the tuning means comprising an effected area of the conductive plating having a determined shape for selectable increasing or decreasing the at least one resonate frequency wherein a circular shape increases the resonate frequency and a rectangular shape decreases the resonate frequency.

78. (Currently added). The filter assembly according to Claim 77, wherein the effected area comprises an area of the conductive plating having a decreased thickness with respect to the remaining conductive plating.

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79. (Currently added). A filter assembly, comprising

a tuning element adapter for shifting a resonate frequency associated with the block resonator via a void remaining when an area of plating is removed from the dielectric block, the void is slot shaped and a length of the slot determines a magnitude of a negative shift in the resonate frequency, wherein a longer length corresponds to a greater negative shift.

80. (Currently added). The filter assembly according to Claim 79, wherein the slot shape is a rectangular shape and the longer dimension is extendable for increasing the negative shift.